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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/790,178 | 03/02/2004 | Kunio Moriyama | K2020.0004/P004 | 3537 |

24998 7590 04/09/2007
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| EXAMINER |
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LEYBOURNE, JAMES J

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| ART UNIT | PAPER NUMBER |
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2881

| SHORTENED STATUTORY PERIOD OF RESPONSE | MAIL DATE | DELIVERY MODE |
|--|------------|---------------|
| 3 MONTHS | 04/09/2007 | PAPER |

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

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|------------------------------|--------------------------------|---------------------------------|--|
| Office Action Summary | Application No. 10/790,178 | Applicant(s) MORIYAMA ET AL. | |
| | Examiner James J. Leybourne | Art Unit 2881 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2007.
 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 5-19 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
 5) ☒ Claim(s) 1,2,5-17 and 19 is/are allowed.
 6) ☒ Claim(s) 18 is/are rejected.
 7) ☐ Claim(s) _____ is/are objected to.
 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
 10) ☒ The drawing(s) filed on 03 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/20/07</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is submitted in response to the RCE filed February 20, 2007.

Claims Rejection – 35 U.S.C. 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S.

Patent No. 4870287 to Cole et al.

4. In column 2, lines 36-44 and Fig. 1, Cole et al. disclose a multi-station proton beam therapy system in which a charged particle beam generator provides a charged particle to a patient in a selected one of a plurality of treatment rooms by an irradiation unit in the selected treatment room.

5. An operator regulated control system controls the switchyard 36 to select which treatment station is to receive the proton beam at any given time (column 2, lines 60-65).

6. The control system consists of multiple distributed microprocessor-based systems networked together and to a central MASSCOMP computer 94 (column 6, lines 1-14). The

Art Unit: 2881

MASSCOMP performs the centralized coordination of beam requests from the treatment stations in the therapy system as well as programmed beam-energy control.

7. Cole et al. does not state that preparations for irradiation of the charged particle beam to the patient have been completed. It is well known in the art that patient safety is an important factor. Therefore, it would be obvious to one of ordinary skill in the art at the time of the invention to complete the preparations for irradiation of the charged particle beam to a patient before selecting a treatment station to receive the beam.

Allowable Subject Matter

8. Claims 1, 2 and 5-19 are allowed.

The following is an examiner's statement of reasons for allowance: These claims were allowed in a previous office action and are repeated here.

9. With respect to independent claims 1, 2 and 5-7 the prior art fails to disclose or make obvious a particle beam therapy system comprising:

- Two manual input signals in each treatment room or corresponding control room with the first manual input generating an irradiation ready signal and the second manual input generating a patient ready signal.
- An emission start control unit that determines and controls the sequence of introduction of the beam to the treatment rooms based on the two manual input signals from each of the treatment rooms.

10. Claims 8, and 11 are allowed by virtue of their dependency on claim 1.

Art Unit: 2881

11. Claims 9, and 12 are allowed by virtue of their dependency on claim 2.
12. Claim 15 is allowed by virtue of its dependency on claim 5.
13. Claim 16 is allowed by virtue of its dependency on claim 6.
14. Claims 10, 13, 14 and 17 are allowed by virtue of their dependency on claim 7.
15. With respect to independent claim 19 the prior art fails to disclose or make obvious a method for irradiating a charged particle beam to a patient in selected one of a plurality of treatment rooms, whereby the priority for selecting the order of the plurality of treatment rooms is determined by the order in which respective irradiation ready signals corresponding to said treatment rooms have been generated by first manual input devices and outputting an emission start signal based on an irradiation start signal generated by a second manual input device corresponding to the treatment room.

Relevant Prior Art

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
17. The following patents are cited to show further show the state of the art with respect to particle beam therapy system beam switching.

US 5,585,642 to Britton et al.

Conclusion

18. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James J. Leybourne whose telephone number is 571 262-2478. The examiner can normally be reached on M_F 10:00AM - 6:00 PM.

20. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on 571 272-2293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

21. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/790,178
Art Unit: 2881

Page 6

March 21, 2007

JJL


ROBERT KIM
SUPERVISORY PATENT EXAMINER